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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
FULLER, ERIC B	

ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 08/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/924,826	OHIRA ET AL.	
	Examiner	Art Unit	
	Eric B Fuller	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6,8-12,14,17-22,24-31 and 33-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6,8-12,14,17-22,24-31 and 33-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Observations/Interpretations

Claims 1-3, 6, 8-12, 14, 17-22, 24-31, and 33-36 are objected to because of the following informalities: It is believed that "N-tert-butylbenzpthiazyl-2-sulfenamide" should read "N-tert-butylbenz**o**thiazyl-2-sulfenamide". Appropriate correction is requested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 8, 12, 14, 17-22, 25-27, and 29-31, and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamijima et al. (US 5,439,512).

Kamijima teaches a composition for an anti-fouling paint that uses acrylic rubber (column 2, lines 50-68) with DCHBSA (column 9, line 32). The paint inherently undergoes some energy conversion when in use (column 1, lines 18-21). The paint comprises fillers (column 9, lines 65-68) and corrosion inhibitor (column 10, lines 10-43). The paint is applied by spraying (column 23, lines 10-15). When the paint is applied to the broad surface of the hull, it reads on being

a sheet. Although the reference is silent in teaching that the energy conversion is due to dipoles being displaced, since the materials of the reference are the same as that of the claims, it must be inherent that the paint of Kamijima converts energy in this manner. Since the materials are the same, the paint must inherently absorb sound in the claimed frequency range as claimed by applicant. Claims 29-31 read on the paint heating up in the sun. The paint must inherently possess all the absorbing attributes of claim 35, since it is made of the same materials as the claimed invention.

Claim 36 is rejected under 35 U.S.C. 102(b) as being anticipated by Cooper (US 4,430,466).

Cooper teaches a composition for an impact resistant (energy conversion) tire that uses polyisoprene or acrylic rubber (column 2, lines 53-59) with Mercaptoalkoxysilane as a coupling agent (column 3, lines 25-35) and DCHBSA as a vulcanization accelerator (column 4, lines 25-30). The coupling agent and accelerator both function as a moment activators, as best described in the specification. Column 5, lines 20-30, teach that 15 parts by weight of moment activators, which falls within the applicant's claimed range. Although the reference is silent in teaching that the energy conversion is due to dipoles being displaced, since the materials of the reference are the same as that of the claims, it must be inherent that the tires of Cooper convert energy in this manner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 6, 8-12, 14, 17, 18, 19, 21, 22, 25, 26, 27, 29-31, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper (US 4,430,466) in view of Okunda et al. (US 5,858,521).

Cooper teaches a composition for an impact resistant (energy conversion) tire that uses polyisoprene or acrylic rubber (column 2, lines 53-59) with DCHBSA as a vulcanization accelerator (column 4, lines 25-30). The tires comprise glass pieces as filler material within the applicant's compositional range (column 3, lines 1-25; column 5, lines 20-30). The examples show that the material may be in sheet form. Although the reference is silent in teaching that the energy conversion is due to dipoles being displaced, since the materials of the reference are the same as that of the claims, it must be inherent that the tires of Cooper convert energy in this manner. Since the materials are the same, the tires must inherently absorb sound in the claimed frequency range as claimed by applicant. Claims 29-31 read on the tires heating up in the sun. The tires would possess all the absorbing attributes of claim 35. The reference fails to explicitly teach the claimed amount of DCHBSA in the composition.

However, Okunda teaches that the degree of vulcanization affects the vibration dampening properties of the rubber and is controlled by the vulcanizing

agents and accelerators (column 5, lines 20-35). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to determine the amount of vulcanizing agents and accelerators in the composition such that the desired degree of vulcanization is achieved. By doing so, the vibration dampening property of the tire is maximized. It would have been within the skill of one practicing in the art, through routine experimentation, to determine this value, absence evidence of criticality.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper (US 4,430,466) in view of Okunda et al. (US 5,858,521), as applied to claim 17 above, and further in view of Kang et al. (US 4,602,054).

Cooper, in view of Okunda, teaches the limitations of claim 17, as shown above, but fails to explicitly teach that the material is adjacent a fiber surface. However, Kang teaches that similar materials are formed into sheets and reinforced with fiber (column 1, lines 15-20). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to reinforce the material of Cooper with fibers. By doing so, a sturdier product results.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper (US 4,430,466) in view of Okunda et al. (US 5,858,521), as applied to claim 25 above, and in further view of Minatono et al. (US 4,218,349).

Cooper, in view of Okunda, teaches the limitations of claim 25. The references fail to explicitly teach that the composition is used in a shoe sole. However, Minatono teaches that tires and shoe soles both require vibration and impact absorption properties and that a composition used for tires will fulfill the absorption requirements for a shoe sole (column 1, lines 12-42). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the composition taught by Cooper as a shoe sole. By doing so, one would have a reasonable expectation of fulfilling the impact and vibration requirements for the shoe sole.

Claims 1-3, 6, 8-12, 14, 17, 18, 19, 21, 22, 25, 26, 27, 29-31, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okunda et al. (US 5,858,521).

Okunda teaches a composition for a vibration dampening material that uses natural or acrylic rubber (column 2, lines 60-65) with MBTS, MBT, or CBS as a vulcanization accelerator (column 3, lines 30-40). The material comprises filler material within the applicant's compositional range (tables). The material may be in sheet form. Although the reference is silent in teaching that the energy conversion is due to dipoles being displaced, since the materials of the reference are the same as that of the claims, it must be inherent that the material of Okunda converts energy in this manner. Since the materials are the same, the material must inherently absorb sound in the claimed frequency range as claimed by applicant. The reference teaches 5 parts by weight of accelerator per 60 parts

by weight of base material (approximately 8.3 parts per 100 parts). This is slightly lower than the applicant's claimed range (10 parts per 100 parts).

However, Okunda is not limited to such an amount and further teaches that the degree of vulcanization affects the vibration dampening properties of the rubber and is controlled by the vulcanizing agents and accelerators (column 5, lines 20-35). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to determine the amount of vulcanizing agents and accelerators in the composition such that the desired degree of vulcanization is achieved. By doing so, the vibration dampening property of the material is maximized. It would have been within the skill of one practicing in the art, through routine experimentation, to determine this value, absence evidence of criticality.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okunda et al. (US 5,858,521), as applied to claim 17 above, and further in view of Kang et al. (US 4,602,054).

Okunda teaches the limitations of claim 17, as shown above, but fails to explicitly teach that the material is adjacent a fiber surface. However, Kang teaches that similar materials are formed into sheets and reinforced with fiber (column 1, lines 15-20). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to reinforce the material of Okunda with fibers. By doing so, a sturdier product results.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okunda et al. (US 5,858,521), as applied to claim 25 above, and in further view of Minatono et al. (US 4,218,349).

Okunda teaches the limitations of claim 25. The references fail to explicitly teach that the composition is used in a shoe sole. However, Minatono teaches that shoe soles both require vibration and impact absorption properties and that a composition used for are similar to those in Okunda (column 1, lines 12-42). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the composition taught by Okunda as a shoe sole. By doing so, one would have a reasonable expectation of fulfilling the impact and vibration requirements for the shoe sole.

Response to Arguments

Applicant argues that Kang fails to teach the limitations of claim 1, as it has now been amended. Examiner agrees and has withdrawn the rejections based on Kang accordingly.

Applicant argues that Copper fails to anticipate the concentration of DCHBSA, which has been added by amendment to claim 1. Examiner agrees and has withdrawn the 35 U.S.C. 102(b) rejection based on Cooper for claims 1 and the claims depending therefrom. Examiner has provided Okunda make obvious the newly added limitation. Additionally, it is noted that claim 36 does not require at least 10 parts by weight of DCHBSA per 100 parts by weight of base material. Claim 36 only requires 10 parts by weight of a moment activator

and the moment activator comprises DCHBSA. As explained above, Cooper teaches multiple materials that act as moment activators, which make up for at least 10 parts by weight per 100 parts by weight of the base material. Some of this material is DCHBSA, which reads on the applicant's claims.

Applicant argues that Kamijima fails to teach the limitation of the material being in the form of a sheet, as has been added by amendment. This argument is not found convincing. Giving "sheet" the broadest acceptable interpretation within the scope of the specification, "sheet" would mean: a broad, flat, continuous surface or expanse. The paint, as it is applied to the substrate would read on being a sheet of paint. Thus, the amendment does not overcome the rejections based on Kamijima. Further, it is noted that claim 36 does not require such a limitation.

All other arguments have been considered, but are moot in view of the new grounds of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Examiner cites Jourdain et al. (US 5,571,883) for teaching rubber vibration-dampeners that comprise CBS. The amount of CBS would have been within the skill of one practicing in the art to determine, especially in view of Okunda.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**.

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is (571) 272-1420. The examiner can normally be reached on Mondays through Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck, can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EBF

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